MATCOM

Projecting Depot Level Maintenance Requirements for the Operating Forces

MATCOM

Agenda

- Introduction
- Problem Definition/Scope
- What is a Depot Level Maintenance Requirement
- Data/Data Sources…Problems with data
- Example of a Proposed Methodology
- Discussion
- Conclusion
- Summary

Introduction

- Oct 2002 MMO Conference
  - MMO's requested a standard method of determining changes to the suggested requirements for outyears as determined by DLMP
  - MATCOM tasked with developing standard method
- MATCOM has initiated development of model
- FY03 Requirements Conference upcoming

Problem Definition/Scope

- MARFOR units' Depot Level Maintenance (DLM) requirements are not uniformly determined. (e.g. I MEF uses a calculation that differs from III MEF)
- There is a need for an objective and quantifiable method for determining DLM requirements so that these requirements can compete in the POM process (PNR approval

Problem Definition/Scope (continued)

- Scope:
  - PEIs (Not SECREPS rebuilt at Depot Level)
  - MARFORS (Not DMFA or WRMR, etc)
  - Not Prioritization

What is a DLMP Requirement?

- An item that requires maintenance that cannot be performed at the organization or intermediate level:
  - Beyond IMA capabilities/authorization
  - Cost to repair exceeds a % of the U/P of the item (e.g. 65% or 50% of U/P)
  - This is observed when: Item fails at the organization level, evac'd to the IMA, IMA requests disposition instructions from LOGBASES

What is a DLMP Requirement? (continued)

- A system is at a certain point in its Life Cycle where its reliability and maintainability has significantly degraded, there by seriously impacting availability and cost to maintain:
  - Examples:
    - Midlife rebuilds
    - Service Life Extension Programs (SLEPs)
    - Product Improvement Programs (PIPs)

Data/Data Sources .. Problems with data

- DLM Requirement #1 (Additional research needs to be done regarding data availability):
  - WIRs. There is a requirements to collect historical data that measures the number of instances that a certain item in a certain unit (MEF) could not be repaired at the organization/Intermediate level within a given time period. Having this information will support identifying trends and forecasting future requirements
    - DO NOT want to measure the number of times a unit submits a “Candidate” for a Depot Maintenance quota given to a MEF by LOGBASES (IM)

Data/Data Sources .. Problems with data (continued)

- DLM Requirement #1 (continued):
  - MIMMS/Job Status Code: "**37**" indicates "Recoverable Item Report submitted; item is being held at the maintenance activity awaiting disposition instructions"
    - Problem: Historical Data Collection may only go back so far; not all systems have data maintained in HMSS (Readiness Reportable); HMSS only keeps last Job Status Code; LDR is now keeping all Job Status Code information (6 months of data presently)
  - A2P/Job Status (JS): "M8: indicates " AWM Recoverable item report submitted"
    - Problem : Needs more research (more historical data available than MIMMS, however)

Data/Data Sources .. Problems with data (continued)

- DLM Requirement #2 (Availability Problems):
  - Measure historical readiness of a given system and in a given unit (Quantity On Hand, Quantity Deadlines, R-Rating):
    - Break out Readiness numbers into two groups, equipments “having recently gone through DLM” and equipment that has not.
    - Using this data we can forecast (using analysis) an expected readiness rating for these two groups over time. It’s expected that items “having recently gone through DLM” will have a readiness rating significantly higher that items that have not.
    - Applying the expected readiness rating derived to a minimum number of items needed to reside in the “having recently gone through DLM group, in order to attain a given readiness level (e.g. 85%, 87% or 90%) will provide a means to determine a unit’s DLM requirement over time.\
    - MCREM data (to include deadline serial number reports)… Non-Readiness Reportable?

Data/Data Sources .. Problems with data (continued)

- DLM Requirement #2 (continued):
  - Keeping track of equipment serial numbers
    - Know when a serial number leaves a certain MEF for DLM (MEF no longer reports readiness on this item)
      - LOGBASES MOWASP or Serialized Tracking System
    - Know when a serial number undergoes DLM, what SOW/MWS Line#s it undergoes
      - LOGBASES MOWASP OR Serialized Tracking System
      - Maintenance Centers local Databases
    - Know when a serial number, “having recently gone through DLM” is received by a given MEF (MEF now reports readiness on this item)
      - LOGBASES MOWASP or Serialized Tracking System

Data/Data Sources .. Problems with data (continued)

- DLM Requirement #2 (continued):
  - Given an item goes through a specific SOW/MWS Line #, what is the Expected Time Between Overhaul (ETBO)
    - The readiness return on depot level maintenance performed can be different for different SOWs (e.g. an IROAN that costs $60,000 for an LVS might have a 4 year ETBO while an enhanced IROAN that costs $140,000 for an LVS might have an 8 year ETBO
    - This information is needed to project the quantity of items “having recently gone through DLM” and those that have not (e.g. an item that went through IROAN and was fielded in ’98, might be classified as not having recently gone through DLM some time in FY02)

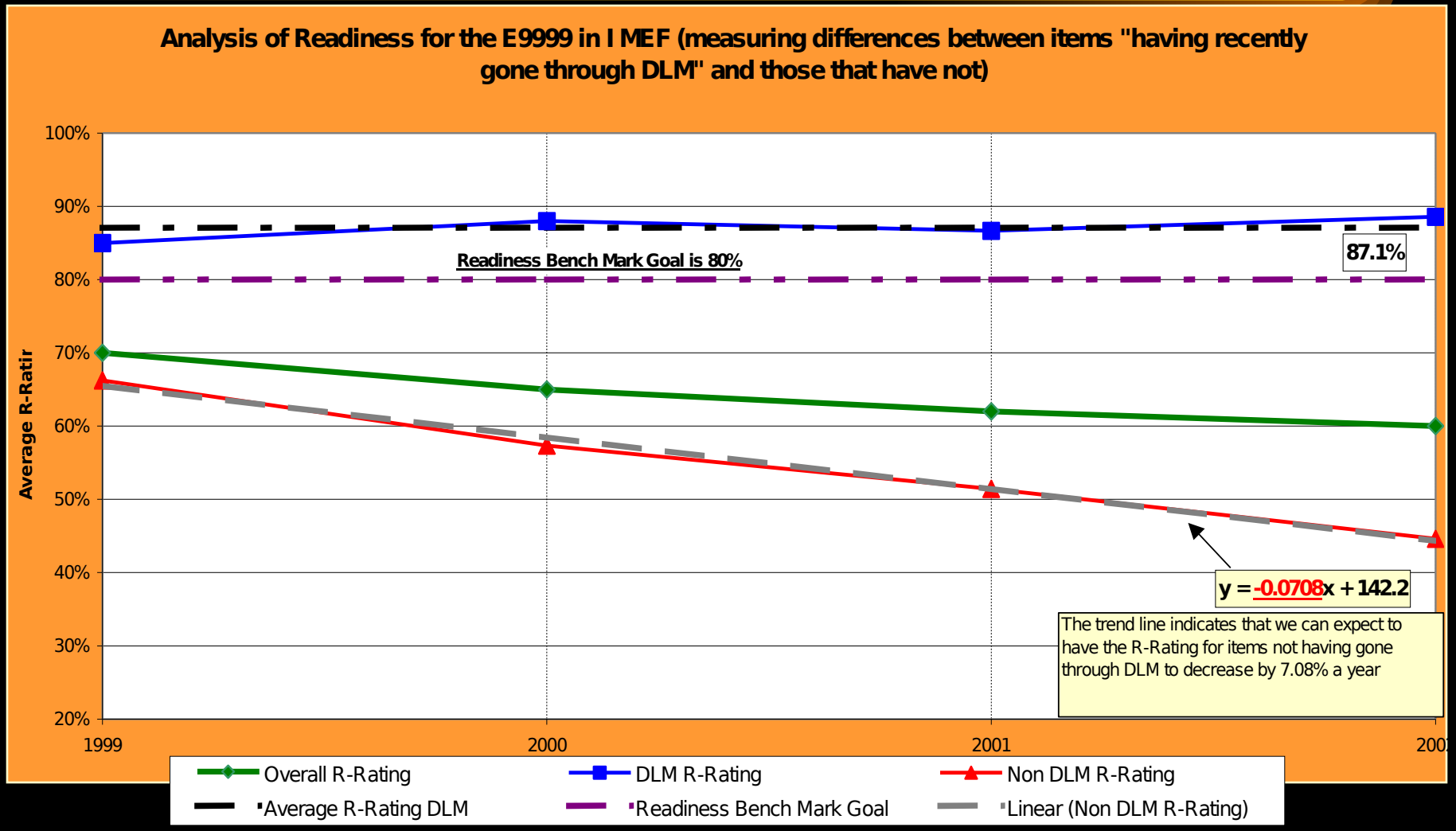
Data/Data Sources .. Problems with data (continued)

- DLM Requirement #2 (continued):
  - Given an item goes through a specific SOW/MWS Line #, what is the Expected Time Between Overhaul (ETBO) (continued)
    - This data is not currently available
    - Recommend that the PMs LMs/equipment specialists develop this data as the SMEs responsible for helping develop these DLMP SOWs.

MATCOM

Example

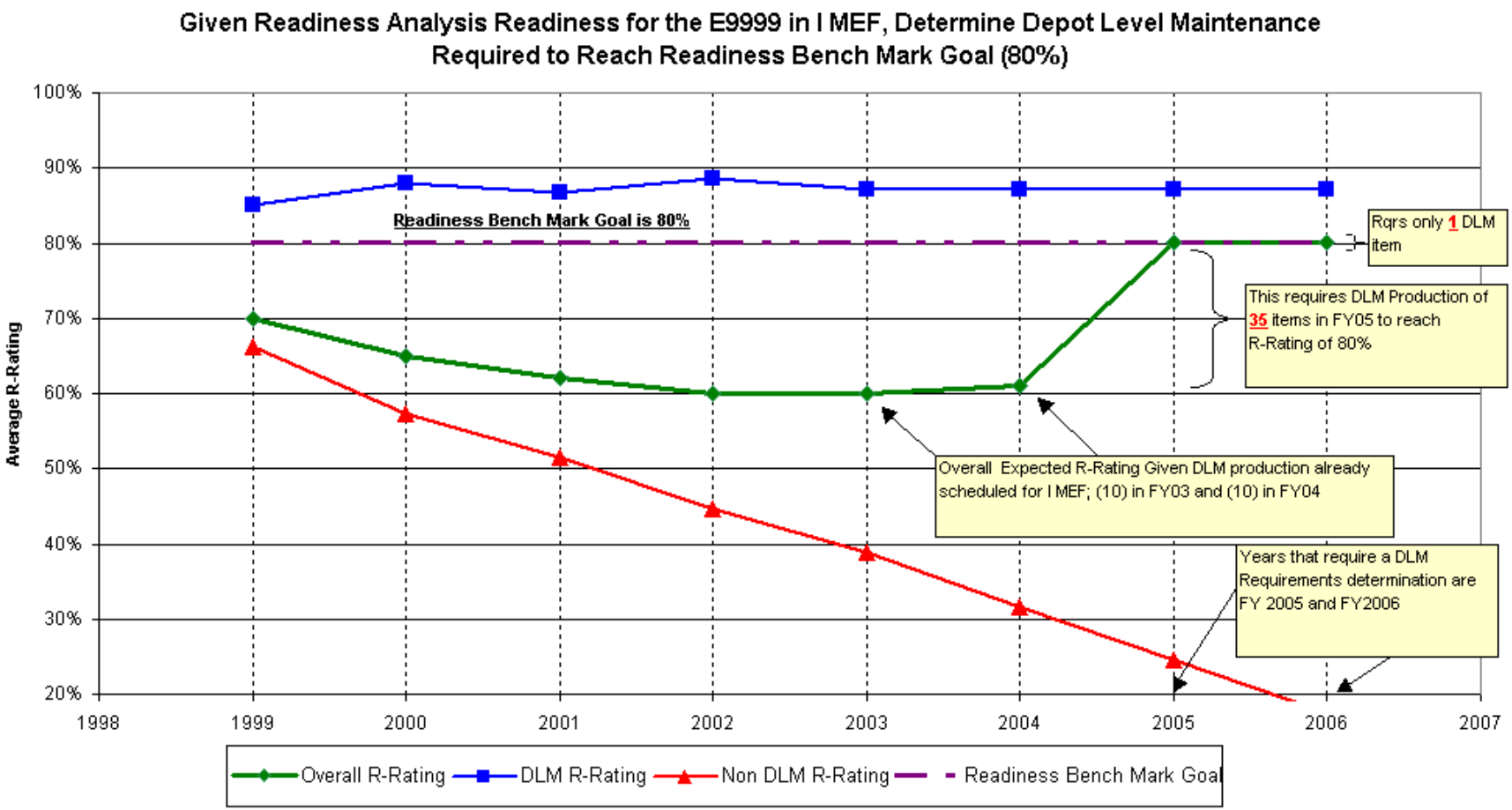
Proposed Methodology (fictitious example)



MATCOM

Example

Proposed Methodology (fictitious example)



MATCOM

Discussion

MATCOM

Conclusions

MATCOM

Summary

- Requested by MMOs
- Tasked to MATCOM
- Requirements
- IOC by FY03 DLMP Requirements Conference
- FOC by FY04 Requirements Review